

SEQUENCE LISTING

<110> Grouzmann, Eric

Lacroix, Jean-Silvain

Monod, Michel

<120> Method of Treating Rhinitis and Sinusitis

<130> 81985/276823

<160> 4

<170> PatentIn version 3.0

<210> 1

<211> 766

<212> PRT

<213> Homo sapiens

<400> 1

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Met Lys Thr Pro Trp Lys Val Leu Leu Gly Leu Leu Gly Ala Ala Ala
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Leu Val Thr Ile Ile Thr Val Pro Val Val Leu Leu Asn Lys Gly Thr
20          25          30

Asp Asp Ala Thr Ala Asp Ser Arg Lys Thr Tyr Thr Leu Thr Asp Tyr
35          40          45

Leu Lys Asn Thr Tyr Arg Leu Lys Leu Tyr Ser Leu Arg Trp Ile Ser
50          55          60

Asp His Glu Tyr Leu Tyr Lys Gln Glu Asn Asn Ile Leu Val Phe Asn
65          70          75          80

Ala Glu Tyr Gly Asn Ser Ser Val Phe Leu Glu Asn Ser Thr Phe Asp
85          90          95

Glu Phe Gly His Ser Ile Asn Asp Tyr Ser Ile Ser Pro Asp Gly Gln
100         105         110

Phe Ile Leu Leu Glu Tyr Asn Tyr Val Lys Gln Trp Arg His Ser Tyr
115         120         125

Thr Ala Ser Tyr Asp Ile Tyr Asp Leu Asn Lys Arg Gln Leu Ile Thr
130         135         140

Glu Glu Arg Ile Pro Asn Asn Thr Gln Trp Val Thr Trp Ser Pro Val
145         150         155         160

Gly His Lys Leu Ala Tyr Val Trp Asn Asn Asp Ile Tyr Val Lys Ile
165         170         175

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| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Pro | Asn | Leu | Pro | Ser | Tyr | Arg | Ile | Thr | Trp | Thr | Gly | Lys | Glu | Asp | 180 | 185 | 190 |
| Ile | Ile | Tyr | Asn | Gly | Ile | Thr | Asp | Trp | Val | Tyr | Glu | Glu | Glu | Val | Phe | 195 | 200 | 205 |
| Ser | Ala | Tyr | Ser | Ala | Leu | Trp | Trp | Ser | Pro | Asn | Gly | Thr | Phe | Leu | Ala | 210 | 215 | 220 |
| Tyr | Ala | Gln | Phe | Asn | Asp | Thr | Glu | Val | Pro | Leu | Ile | Glu | Tyr | Ser | Phe | 225 | 230 | 235 |
| Tyr | Ser | Asp | Glu | Ser | Leu | Gln | Tyr | Pro | Lys | Thr | Val | Arg | Val | Pro | Tyr | 245 | 250 | 255 |
| Pro | Lys | Ala | Gly | Ala | Val | Asn | Pro | Thr | Val | Lys | Phe | Phe | Val | Val | Asn | 260 | 265 | 270 |
| Thr | Asp | Ser | Leu | Ser | Ser | Val | Thr | Asn | Ala | Thr | Ser | Ile | Gln | Ile | Thr | 275 | 280 | 285 |
| Ala | Pro | Ala | Ser | Met | Leu | Ile | Gly | Asp | His | Tyr | Leu | Cys | Asp | Val | Thr | 290 | 295 | 300 |
| Trp | Ala | Thr | Gln | Glu | Arg | Ile | Ser | Leu | Gln | Trp | Leu | Arg | Arg | Ile | Gln | 305 | 310 | 315 |
| Asn | Tyr | Ser | Val | Met | Asp | Ile | Cys | Asp | Tyr | Asp | Glu | Ser | Ser | Gly | Arg | 325 | 330 | 335 |
| Trp | Asn | Cys | Leu | Val | Ala | Arg | Gln | His | Ile | Glu | Met | Ser | Thr | Thr | Gly | 340 | 345 | 350 |
| Trp | Val | Gly | Arg | Phe | Arg | Pro | Ser | Glu | Pro | His | Phe | Thr | Leu | Asp | Gly | 355 | 360 | 365 |
| Asn | Ser | Phe | Tyr | Lys | Ile | Ile | Ser | Asn | Glu | Glu | Gly | Tyr | Arg | His | Ile | 370 | 375 | 380 |
| Cys | Tyr | Phe | Gln | Ile | Asp | Lys | Lys | Asp | Cys | Thr | Phe | Ile | Thr | Lys | Gly | 385 | 390 | 395 |
| Thr | Trp | Glu | Val | Ile | Gly | Ile | Glu | Ala | Leu | Thr | Ser | Asp | Tyr | Leu | Tyr | 405 | 410 | 415 |
| Tyr | Ile | Ser | Asn | Glu | Tyr | Lys | Gly | Met | Pro | Gly | Gly | Arg | Asn | Leu | Tyr | 420 | 425 | 430 |
| Lys | Ile | Gln | Leu | Ser | Asp | Tyr | Thr | Lys | Val | Thr | Cys | Leu | Ser | Cys | Glu | 435 | 440 | 445 |
| Leu | Asn | Pro | Glu | Arg | Cys | Gln | Tyr | Tyr | Ser | Val | Ser | Phe | Ser | Lys | Glu | 450 | 455 | 460 |
| Ala | Lys | Tyr | Tyr | Gln | Leu | Arg | Cys | Ser | Gly | Pro | Gly | Leu | Pro | Leu | Tyr | 465 | 470 | 475 |
| Thr | Leu | His | Ser | Ser | Val | Asn | Asp | Lys | Gly | Leu | Arg | Val | Leu | Glu | Asp | 485 | 490 | 495 |

| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| Asn | Ser | Ala | Leu | Asp | Lys | Met | Leu | Gln | Asn | Val | Gln | Met | Pro | Ser | Lys | | | |
| | | | 500 | | | | | 505 | | | | | 510 | | | | | |
| Lys | Leu | Asp | Phe | Ile | Ile | Leu | Asn | Glu | Thr | Lys | Phe | Trp | Tyr | Gln | Met | | | |
| | | 515 | | | | | 520 | | | | | 525 | | | | | | |
| Ile | Leu | Pro | Pro | His | Phe | Asp | Lys | Ser | Lys | Lys | Tyr | Pro | Leu | Leu | Leu | | | |
| | 530 | | | | | 535 | | | | | 540 | | | | | | | |
| Asp | Val | Tyr | Ala | Gly | Pro | Cys | Ser | Gln | Lys | Ala | Asp | Thr | Val | Phe | Arg | | | |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 | | | |
| Leu | Asn | Trp | Ala | Thr | Tyr | Leu | Ala | Ser | Thr | Glu | Asn | Ile | Ile | Val | Ala | | | |
| | | | | 565 | | | | | 570 | | | | | 575 | | | | |
| Ser | Phe | Asp | Gly | Arg | Gly | Ser | Gly | Tyr | Gln | Gly | Asp | Lys | Ile | Met | His | | | |
| | | | 580 | | | | | 585 | | | | | 590 | | | | | |
| Ala | Ile | Asn | Arg | Arg | Leu | Gly | Thr | Phe | Glu | Val | Glu | Asp | Gln | Ile | Glu | | | |
| | | 595 | | | | | 600 | | | | | 605 | | | | | | |
| Ala | Ala | Arg | Gln | Phe | Ser | Lys | Met | Gly | Phe | Val | Asp | Asn | Lys | Arg | Ile | | | |
| | 610 | | | | | 615 | | | | | 620 | | | | | | | |
| Ala | Ile | Trp | Gly | Trp | Ser | Tyr | Gly | Gly | Tyr | Val | Thr | Ser | Met | Val | Leu | | | |
| 625 | | | | | 630 | | | | | 635 | | | | | 640 | | | |
| Gly | Ser | Gly | Ser | Gly | Val | Phe | Lys | Cys | Gly | Ile | Ala | Val | Ala | Pro | Val | | | |
| | | | | 645 | | | | | 650 | | | | | 655 | | | | |
| Ser | Arg | Trp | Glu | Tyr | Tyr | Asp | Ser | Val | Tyr | Thr | Glu | Arg | Tyr | Met | Gly | | | |
| | | | 660 | | | | | 665 | | | | | 670 | | | | | |
| Leu | Pro | Thr | Pro | Glu | Asp | Asn | Leu | Asp | His | Tyr | Arg | Asn | Ser | Thr | Val | | | |
| | | 675 | | | | | 680 | | | | | 685 | | | | | | |
| Met | Ser | Arg | Ala | Glu | Asn | Phe | Lys | Gln | Val | Glu | Tyr | Leu | Leu | Ile | His | | | |
| | 690 | | | | | 695 | | | | | 700 | | | | | | | |
| Gly | Thr | Ala | Asp | Asp | Asn | Val | His | Phe | Gln | Gln | Ser | Ala | Gln | Ile | Ser | | | |
| 705 | | | | | 710 | | | | | 715 | | | | 720 | | | | |
| Lys | Ala | Leu | Val | Asp | Val | Gly | Val | Asp | Phe | Gln | Ala | Met | Trp | Tyr | Thr | | | |
| | | | | 725 | | | | | 730 | | | | | 735 | | | | |
| Asp | Glu | Asp | His | Gly | Ile | Ala | Ser | Ser | Thr | Ala | His | Gln | His | Ile | Tyr | | | |
| | | | 740 | | | | | 745 | | | | | 750 | | | | | |
| Thr | His | Met | Ser | His | Phe | Ile | Lys | Gln | Cys | Phe | Ser | Leu | Pro | | | | | |
| | | 755 | | | | | 760 | | | | | 765 | | | | | | |

<210> 2

<211> 492

<212> PRT

<213> Homo sapiens

<400> 2

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| Met | Gly | Ser | Ala | Pro | Trp | Ala | Pro | Val | Leu | Leu | Leu | Ala | Leu | Gly | Leu | 1 | 5 | 10 | 15 |
| Arg | Gly | Leu | Gln | Ala | Gly | Ala | Arg | Arg | Ala | Pro | Asp | Pro | Gly | Phe | Gln | 20 | 25 | 30 | |
| Glu | Arg | Phe | Phe | Gln | Gln | Arg | Leu | Asp | His | Phe | Asn | Phe | Glu | Arg | Phe | 35 | 40 | 45 | |
| Gly | Asn | Lys | Thr | Phe | Pro | Gln | Arg | Phe | Leu | Val | Ser | Asp | Arg | Phe | Trp | 50 | 55 | 60 | |
| Val | Arg | Gly | Glu | Gly | Pro | Thr | Phe | Phe | Tyr | Thr | Gly | Asn | Glu | Gly | Asp | 65 | 70 | 75 | 80 |
| Val | Trp | Ala | Phe | Ala | Asn | Asn | Ser | Gly | Phe | Val | Ala | Glu | Leu | Ala | Ala | 85 | 90 | 95 | |
| Glu | Arg | Gly | Ala | Leu | Leu | Val | Phe | Ala | Glu | His | Arg | Tyr | Tyr | Gly | Lys | 100 | 105 | 110 | |
| Ser | Leu | Pro | Phe | Gly | Ala | Gln | Ser | Thr | Gln | Arg | Gly | His | Thr | Glu | Leu | 115 | 120 | 125 | |
| Leu | Thr | Val | Glu | Gln | Ala | Leu | Ala | Asp | Phe | Ala | Glu | Leu | Leu | Arg | Ala | 130 | 135 | 140 | |
| Leu | Arg | Arg | Asp | Leu | Gly | Ala | Gln | Asp | Ala | Pro | Ala | Ile | Ala | Phe | Gly | 145 | 150 | 155 | 160 |
| Gly | Ser | Tyr | Gly | Gly | Met | Leu | Ser | Ala | Tyr | Leu | Arg | Met | Lys | Tyr | Pro | 165 | 170 | 175 | |
| His | Leu | Val | Ala | Gly | Ala | Leu | Ala | Ala | Ser | Ala | Pro | Val | Leu | Ala | Val | 180 | 185 | 190 | |
| Ala | Gly | Leu | Gly | Asp | Ser | Asn | Gln | Phe | Phe | Arg | Asp | Val | Thr | Ala | Asp | 195 | 200 | 205 | |
| Phe | Glu | Gly | Gln | Ser | Pro | Lys | Cys | Thr | Gln | Gly | Val | Arg | Glu | Ala | Phe | 210 | 215 | 220 | |
| Arg | Gln | Ile | Lys | Asp | Leu | Phe | Leu | Gln | Gly | Ala | Tyr | Asp | Thr | Val | Arg | 225 | 230 | 235 | 240 |
| Trp | Glu | Phe | Gly | Thr | Cys | Gln | Pro | Leu | Ser | Asp | Glu | Lys | Asp | Leu | Thr | 245 | 250 | 255 | |
| Gln | Leu | Phe | Met | Phe | Ala | Arg | Asn | Ala | Phe | Thr | Val | Leu | Ala | Met | Met | 260 | 265 | 270 | |
| Asp | Tyr | Pro | Tyr | Pro | Thr | Asp | Phe | Leu | Gly | Pro | Leu | Pro | Ala | Asn | Pro | 275 | 280 | 285 | |
| Val | Lys | Val | Gly | Cys | Asp | Arg | Leu | Leu | Ser | Glu | Ala | Gln | Arg | Ile | Thr | 290 | 295 | 300 | |

Gly Leu Arg Ala Leu Ala Gly Leu Val Tyr Asn Ala Ser Gly Ser Glu
 305 310 315 320
 His Cys Tyr Asp Ile Tyr Arg Leu Tyr His Ser Cys Ala Asp Pro Thr
 325 330 335
 Gly Cys Gly Thr Gly Pro Asp Ala Arg Ala Trp Asp Tyr Gln Ala Cys
 340 345 350
 Thr Glu Ile Asn Leu Thr Phe Ala Ser Asn Asn Val Thr Asp Met Phe
 355 360 365
 Pro Asp Leu Pro Phe Thr Asp Glu Leu Arg Gln Arg Tyr Cys Leu Asp
 370 375 380
 Thr Trp Gly Val Trp Pro Arg Pro Asp Trp Leu Leu Thr Ser Phe Trp
 385 390 395 400
 Gly Gly Asp Leu Arg Ala Ala Ser Asn Ile Ile Phe Ser Asn Gly Asn
 405 410 415
 Leu Asp Pro Trp Ala Gly Gly Gly Ile Arg Arg Asn Leu Ser Ala Ser
 420 425 430
 Val Ile Ala Val Thr Ile Gln Gly Gly Ala His His Leu Asp Leu Arg
 435 440 445
 Ala Ser His Pro Glu Asp Pro Ala Ser Val Val Glu Ala Arg Lys Leu
 450 455 460
 Glu Ala Thr Ile Ile Gly Glu Trp Val Lys Ala Ala Arg Arg Glu Gln
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 Gln Pro Ala Leu Arg Gly Gly Pro Arg Leu Ser Leu
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<212> PRT

<213> Homo sapiens

<400> 3

Met Val Ala Ala Ala Ala Ala Thr Glu Ala Arg Leu Arg Arg Arg Thr
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 Asn Gly Gly Arg Cys Asn Pro Gly Thr Gly Gln Cys Val Cys Pro Ala
 35 40 45
 Gly Trp Val Gly Glu Gln Cys Gln His Cys Gly Gly Arg Phe Arg Leu
 50 55 60

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Thr | Gly | Ser | Ser | Gly | Phe | Val | Thr | Asp | Gly | Pro | Gly | Asn | Tyr | Lys | Tyr | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Lys | Thr | Lys | Cys | Thr | Trp | Leu | Ile | Glu | Gly | Gln | Pro | Asn | Arg | Ile | Met | |
| | | | 85 | | | | | | 90 | | | | | 95 | | |
| Arg | Leu | Arg | Phe | Asn | His | Phe | Ala | Thr | Glu | Cys | Ser | Trp | Asp | His | Leu | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Tyr | Val | Tyr | Asp | Gly | Asp | Ser | Ile | Tyr | Ala | Pro | Leu | Val | Ala | Ala | Phe | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Ser | Gly | Leu | Ile | Val | Pro | Glu | Arg | Asp | Gly | Asn | Glu | Thr | Val | Pro | Glu | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |
| Val | Val | Ala | Thr | Ser | Gly | Tyr | Ala | Leu | Leu | His | Phe | Phe | Ser | Asp | Ala | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| Ala | Tyr | Asn | Leu | Thr | Gly | Phe | Asn | Ile | Thr | Tyr | Ser | Phe | Asp | Met | Cys | |
| | | | 165 | | | | | | 170 | | | | | 175 | | |
| Pro | Asn | Asn | Cys | Ser | Gly | Arg | Gly | Glu | Cys | Lys | Ile | Ser | Asn | Ser | Ser | |
| | | | 180 | | | | | 185 | | | | | | 190 | | |
| Asp | Thr | Val | Glu | Cys | Glu | Cys | Ser | Glu | Asn | Trp | Lys | Gly | Glu | Ala | Cys | |
| | | 195 | | | | | | 200 | | | | 205 | | | | |
| Asp | Ile | Pro | His | Cys | Thr | Asp | Asn | Cys | Gly | Phe | Pro | His | Arg | Gly | Ile | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |
| Cys | Asn | Ser | Ser | Asp | Val | Arg | Gly | Cys | Ser | Cys | Phe | Ser | Asp | Trp | Gln | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | |
| Gly | Pro | Gly | Cys | Ser | Val | Pro | Val | Pro | Ala | Asn | Gln | Ser | Phe | Trp | Thr | |
| | | | 245 | | | | | | 250 | | | | | 255 | | |
| Arg | Glu | Glu | Tyr | Ser | Asn | Leu | Lys | Leu | Pro | Arg | Ala | Ser | His | Lys | Ala | |
| | | | 260 | | | | | 265 | | | | | 270 | | | |
| Val | Val | Asn | Gly | Asn | Ile | Met | Trp | Val | Val | Gly | Gly | Tyr | Met | Phe | Asn | |
| | | 275 | | | | | 280 | | | | | 285 | | | | |
| His | Ser | Asp | Tyr | Asn | Met | Val | Leu | Ala | Tyr | Asp | Leu | Ala | Ser | Arg | Glu | |
| | 290 | | | | | 295 | | | | | 300 | | | | | |
| Trp | Leu | Pro | Leu | Asn | Arg | Ser | Val | Asn | Asn | Val | Val | Val | Arg | Tyr | Gly | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | |
| His | Ser | Leu | Ala | Leu | Tyr | Lys | Asp | Lys | Ile | Tyr | Met | Tyr | Gly | Gly | Lys | |
| | | | 325 | | | | | | 330 | | | | | 335 | | |
| Ile | Asp | Ser | Thr | Gly | Asn | Val | Thr | Asn | Glu | Leu | Arg | Val | Phe | His | Ile | |
| | | | 340 | | | | | 345 | | | | | 350 | | | |
| His | Asn | Glu | Ser | Trp | Val | Leu | Leu | Thr | Pro | Lys | Ala | Lys | Glu | Gln | Tyr | |
| | 355 | | | | | | 360 | | | | | 365 | | | | |
| Ala | Val | Val | Gly | His | Ser | Ala | His | Ile | Val | Thr | Leu | Lys | Asn | Gly | Arg | |
| | 370 | | | | | 375 | | | | | 380 | | | | | |

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Val | Met | Leu | Val | Ile | Phe | Gly | His | Cys | Pro | Leu | Tyr | Gly | Tyr | Ile | 385 | 390 | 395 | 400 |
| Ser | Asn | Val | Gln | Glu | Tyr | Asp | Leu | Asp | Lys | Asn | Thr | Trp | Ser | Ile | Leu | 405 | 410 | 415 | |
| His | Thr | Gln | Gly | Ala | Leu | Val | Gln | Gly | Gly | Tyr | Gly | His | Ser | Ser | Val | 420 | 425 | 430 | |
| Tyr | Asp | His | Arg | Thr | Arg | Ala | Leu | Tyr | Val | His | Gly | Gly | Tyr | Lys | Ala | 435 | 440 | 445 | |
| Phe | Ser | Ala | Asn | Lys | Tyr | Arg | Leu | Ala | Asp | Asp | Leu | Tyr | Arg | Tyr | Asp | 450 | 455 | 460 | |
| Val | Asp | Thr | Gln | Met | Trp | Thr | Ile | Leu | Lys | Asp | Ser | Arg | Phe | Phe | Arg | 465 | 470 | 475 | 480 |
| Tyr | Leu | His | Thr | Ala | Val | Ile | Val | Ser | Gly | Thr | Met | Leu | Val | Phe | Gly | 485 | 490 | 495 | |
| Gly | Asn | Thr | His | Asn | Asp | Thr | Ser | Met | Ser | His | Gly | Ala | Lys | Cys | Phe | 500 | 505 | 510 | |
| Ser | Ser | Asp | Phe | Met | Ala | Tyr | Asp | Ile | Ala | Cys | Asp | Arg | Trp | Ser | Val | 515 | 520 | 525 | |
| Leu | Pro | Arg | Pro | Asp | Ser | Thr | Met | Met | Ser | Thr | Asp | Leu | Ala | Ile | Pro | 530 | 535 | 540 | |
| Ala | Val | Leu | His | Asn | Ser | Thr | Met | Tyr | Val | Phe | Gly | Gly | Phe | Asn | Ser | 545 | 550 | 555 | 560 |
| Leu | Leu | Leu | Ser | Asp | Ile | Leu | Val | Phe | Thr | Ser | Glu | Gln | Cys | Asp | Ala | 565 | 570 | 575 | |
| His | Arg | Ser | Glu | Ala | Ala | Cys | Leu | Ala | Ala | Gly | Pro | Gly | Ile | Arg | Cys | 580 | 585 | 590 | |
| Val | Trp | Asn | Thr | Gly | Ser | Ser | Gln | Cys | Ile | Ser | Trp | Ala | Leu | Ala | Thr | 595 | 600 | 605 | |
| Asp | Glu | Gln | Glu | Glu | Lys | Leu | Lys | Ser | Glu | Cys | Phe | Ser | Lys | Arg | Thr | 610 | 615 | 620 | |
| Leu | Asp | His | Asp | Arg | Cys | Asp | Gln | His | Thr | Asp | Cys | Tyr | Ser | Cys | Thr | 625 | 630 | 635 | 640 |
| Ala | Asn | Thr | Asn | Asp | Cys | His | Trp | Cys | Asn | Asp | His | Cys | Val | Pro | Arg | 645 | 650 | 655 | |
| Asn | His | Ser | Cys | Ser | Glu | Gly | Gln | Ile | Ser | Ile | Phe | Arg | Tyr | Glu | Asn | 660 | 665 | 670 | |
| Cys | Pro | Lys | Asp | Asn | Pro | Met | Tyr | Tyr | Cys | Asn | Lys | Lys | Thr | Ser | Cys | 675 | 680 | 685 | |
| Arg | Ser | Cys | Ala | Leu | Asp | Gln | Asn | Cys | Gln | Trp | Glu | Pro | Arg | Asn | Gln | 690 | 695 | 700 | |

| | | | | | | | | | | | | | | | | |
|-----|------|-----|-----|-----|-----|------|------|-----|-----|-----|------|------|-----|-----|-----|--|
| Glu | Cys | Ile | Ala | Leu | Pro | Glu | Asn | Ile | Cys | Gly | Ile | Gly | Trp | His | Leu | |
| 705 | | | | | 710 | | | | | 715 | | | | | 720 | |
| Val | Gly | Asn | Ser | Cys | Leu | Lys | Ile | Thr | Thr | Ala | Lys | Glu | Asn | Tyr | Asp | |
| | | | | 725 | | | | | 730 | | | | | 735 | | |
| Asn | Ala | Lys | Leu | Phe | Cys | Arg | Asn | His | Asn | Ala | Leu | Leu | Ala | Ser | Leu | |
| | | | 740 | | | | | 745 | | | | | | 750 | | |
| Thr | Thr | Gln | Lys | Lys | Val | Glu | Phe | Val | Leu | Lys | Gln | Leu | Arg | Ile | Met | |
| | | 755 | | | | | 760 | | | | | 765 | | | | |
| Gln | Ser | Ser | Gln | Ser | Met | Ser | Lys | Leu | Thr | Leu | Thr | Pro | Trp | Val | Gly | |
| | 770 | | | | | 775 | | | | | 780 | | | | | |
| Leu | Arg | Lys | Ile | Asn | Val | Ser | Tyr | Trp | Cys | Trp | Glu | Asp | Met | Ser | Pro | |
| 785 | | | | | 790 | | | | | 795 | | | | | 800 | |
| Phe | Thr | Asn | Ser | Leu | Leu | Gln | Trp | Met | Pro | Ser | Glu | Pro | Ser | Asp | Ala | |
| | | | | 805 | | | | | 810 | | | | | 815 | | |
| Gly | Phe | Cys | Gly | Ile | Leu | Ser | Glu | Pro | Ser | Thr | Arg | Gly | Leu | Lys | Ala | |
| | | | 820 | | | | | 825 | | | | | 830 | | | |
| Ala | Thr | Cys | Ile | Asn | Pro | Leu | Asn | Gly | Ser | Val | Cys | Glu | Arg | Pro | Ala | |
| | | 835 | | | | | 840 | | | | | 845 | | | | |
| Asn | His | Ser | Ala | Lys | Gln | Cys | Arg | Thr | Pro | Cys | Ala | Leu | Arg | Thr | Ala | |
| | 850 | | | | | 855 | | | | | 860 | | | | | |
| Cys | Gly | Asp | Cys | Thr | Ser | Gly | Ser | Ser | Glu | Cys | Met | Trp | Cys | Ser | Asn | |
| 865 | | | | | 870 | | | | | 875 | | | | | 880 | |
| Met | Lys | Gln | Cys | Val | Asp | Ser | Asn | Ala | Tyr | Val | Ala | Ser | Phe | Pro | Phe | |
| | | | | 885 | | | | | 890 | | | | | 895 | | |
| Gly | Gln | Cys | Met | Glu | Trp | Tyr | Thr | Met | Ser | Thr | Cys | Pro | Pro | Glu | Asn | |
| | | | 900 | | | | | 905 | | | | | 910 | | | |
| Cys | Ser | Gly | Tyr | Cys | Thr | Cys | Ser | His | Cys | Leu | Glu | Gln | Pro | Gly | Cys | |
| | | 915 | | | | | 920 | | | | | 925 | | | | |
| Gly | Trp | Cys | Thr | Asp | Pro | Ser | Asn | Thr | Gly | Lys | Gly | Lys | Cys | Ile | Glu | |
| | 930 | | | | | 935 | | | | | 940 | | | | | |
| Gly | Ser | Tyr | Lys | Gly | Pro | Val | Lys | Met | Pro | Ser | Gln | Ala | Pro | Thr | Gly | |
| 945 | | | | | 950 | | | | | 955 | | | | | 960 | |
| Asn | Phe | Tyr | Pro | Gln | Pro | Leu | Leu | Asn | Ser | Ser | Met | Cys | Leu | Glu | Asp | |
| | | | | 965 | | | | 970 | | | | | | 975 | | |
| Ser | Arg | Tyr | Asn | Trp | Ser | Phe | Ile | His | Cys | Pro | Ala | Cys | Gln | Cys | Asn | |
| | | | 980 | | | | | 985 | | | | | 990 | | | |
| Gly | His | Ser | Lys | Cys | Ile | Asn | Gln | Ser | Ile | Cys | Glu | Lys | Cys | Glu | Asn | |
| | | 995 | | | | | 1000 | | | | | 1005 | | | | |
| Leu | Thr | Thr | Gly | Lys | His | Cys | Glu | Thr | Cys | Ile | Ser | Gly | Phe | Tyr | | |
| | 1010 | | | | | 1015 | | | | | 1020 | | | | | |

| | | | | | | | | | | | | | | |
|------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|
| Gly | Asp | Pro | Thr | Asn | Gly | Gly | Lys | Cys | Gln | Pro | Cys | Lys | Cys | Asn |
| 1025 | | | | | | 1030 | | | | | 1035 | | | |
| Gly | His | Ala | Ser | Leu | Cys | Asn | Thr | Asn | Thr | Gly | Lys | Cys | Phe | Cys |
| 1040 | | | | | | 1045 | | | | | 1050 | | | |
| Thr | Thr | Lys | Gly | Val | Lys | Gly | Asp | Glu | Cys | Gln | Leu | Cys | Glu | Val |
| 1055 | | | | | | 1060 | | | | | 1065 | | | |
| Glu | Asn | Arg | Tyr | Gln | Gly | Asn | Pro | Leu | Arg | Gly | Thr | Cys | Tyr | Tyr |
| 1070 | | | | | | 1075 | | | | | 1080 | | | |
| Thr | Leu | Leu | Ile | Asp | Tyr | Gln | Phe | Thr | Phe | Ser | Leu | Ser | Gln | Glu |
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| Asp | Asp | Arg | Tyr | Tyr | Thr | Ala | Ile | Asn | Phe | Val | Ala | Thr | Pro | Asp |
| 1100 | | | | | | 1105 | | | | | 1110 | | | |
| Glu | Gln | Asn | Arg | Asp | Leu | Asp | Met | Phe | Ile | Asn | Ala | Ser | Lys | Asn |
| 1115 | | | | | | 1120 | | | | | 1125 | | | |
| Phe | Asn | Leu | Asn | Ile | Thr | Trp | Ala | Ala | Ser | Phe | Ser | Ala | Gly | Thr |
| 1130 | | | | | | 1135 | | | | | 1140 | | | |
| Gln | Ala | Gly | Glu | Glu | Met | Pro | Val | Val | Ser | Lys | Thr | Asn | Ile | Lys |
| 1145 | | | | | | 1150 | | | | | 1155 | | | |
| Glu | Tyr | Lys | Asp | Ser | Phe | Ser | Asn | Glu | Lys | Phe | Asp | Phe | Arg | Asn |
| 1160 | | | | | | 1165 | | | | | 1170 | | | |
| His | Pro | Asn | Ile | Thr | Phe | Phe | Val | Tyr | Val | Ser | Asn | Phe | Thr | Trp |
| 1175 | | | | | | 1180 | | | | | 1185 | | | |
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<210> 4

<211> 310

<212> PRT

<213> Homo sapiens

<400> 4

| | | | | | | | | | | | | | | | |
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| Phe | Glu | Gly | Thr | Lys | Asp | Ser | Pro | Leu | Glu | His | His | Leu | Tyr | Val | Val |
| 1 | | | | 5 | | | | | 10 | | | | 15 | | |
| Ser | Tyr | Val | Asn | Pro | Gly | Glu | Val | Thr | Arg | Leu | Thr | Asp | Arg | Gly | Tyr |
| | | | 20 | | | | | 25 | | | | 30 | | | |
| Ser | His | Ser | Cys | Cys | Ile | Ser | Gln | His | Cys | Asp | Phe | Phe | Ile | Ser | Lys |
| | | 35 | | | | | 40 | | | | 45 | | | | |
| Tyr | Ser | Asn | Gln | Lys | Asn | Pro | His | Cys | Val | Ser | Leu | Tyr | Lys | Leu | Ser |
| | | 50 | | | | 55 | | | | | 60 | | | | |

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Pro | Glu | Asp | Asp | Pro | Thr | Cys | Lys | Thr | Lys | Glu | Phe | Trp | Ala | Thr | 65 | 70 | 75 | 80 |
| Ile | Leu | Asp | Ser | Ala | Gly | Pro | Leu | Pro | Asp | Tyr | Thr | Pro | Pro | Glu | Ile | 85 | 90 | 95 | |
| Phe | Ser | Phe | Glu | Ser | Thr | Thr | Gly | Phe | Thr | Leu | Tyr | Gly | Met | Leu | Tyr | 100 | 105 | 110 | |
| Lys | Pro | His | Asp | Leu | Gln | Pro | Gly | Lys | Lys | Tyr | Pro | Thr | Val | Leu | Phe | 115 | 120 | 125 | |
| Ile | Tyr | Gly | Gly | Pro | Gln | Gly | Gln | Ile | Glu | Ile | Asp | Asp | Gln | Val | Glu | 130 | 135 | 140 | |
| Gly | Leu | Gln | Tyr | Leu | Ala | Ser | Arg | Tyr | Asp | Phe | Ile | Asp | Leu | Asp | Arg | 145 | 150 | 155 | 160 |
| Val | Gly | Ile | His | Gly | Trp | Ser | Tyr | Gly | Gly | Tyr | Leu | Ser | Leu | Met | Ala | 165 | 170 | 175 | |
| Leu | Met | Gln | Arg | Ser | Asp | Ile | Phe | Arg | Val | Ala | Ile | Ala | Gly | Ala | Pro | 180 | 185 | 190 | |
| Val | Thr | Leu | Trp | Ile | Phe | Tyr | Asp | Thr | Gly | Tyr | Thr | Glu | Arg | Tyr | Met | 195 | 200 | 205 | |
| Gly | His | Pro | Asp | Gln | Asn | Glu | Gln | Gly | Tyr | Tyr | Leu | Gly | Ser | Val | Ala | 210 | 215 | 220 | |
| Met | Gln | Ala | Glu | Lys | Phe | Pro | Ser | Glu | Pro | Asn | Arg | Leu | Leu | Leu | Leu | 225 | 230 | 235 | 240 |
| His | Gly | Phe | Leu | Asp | Glu | Asn | Val | His | Phe | Ala | His | Thr | Ser | Ile | Leu | 245 | 250 | 255 | |
| Leu | Ser | Phe | Leu | Val | Arg | Ala | Gly | Lys | Pro | Tyr | Asp | Leu | Gln | Ile | Tyr | 260 | 265 | 270 | |
| Pro | Gln | Glu | Arg | His | Ser | Ile | Arg | Val | Pro | Glu | Ser | Gly | Glu | His | Tyr | 275 | 280 | 285 | |
| Glu | Leu | His | Leu | Leu | His | Tyr | Leu | Gln | Glu | Asn | Leu | Gly | Ser | Arg | Ile | 290 | 295 | 300 | |
| Ala | Ala | Leu | Lys | Val | Ile | | | | | | | | | | | 305 | 310 | | |